

ABSTRACT OF THE DISCLOSURE

In a high frequency plasma CVD using a source gas comprising a silicon halide and hydrogen, the value of Q defined by $Q = P_o \times P_R / S / d$ is controlled so as to be 50 or more, wherein P_o (W) is a supplied power, S (cm²) is the area of a high frequency introducing electrode, d (cm) is a distance between the high frequency introducing electrode and a substrate, and P_R (mTorr) is a pressure. Thereby, a method of forming a silicon thin film, a silicon thin film and a photovoltaic element excellent in photoelectric characteristics are provided which attain a film forming rate of an industrially practical level.